

REMARKS

The Office Action dated March 16, 2006 has been reviewed and the application is amended in a manner believed to place same in condition for allowance. Reconsideration of the application is requested.

In summary, Claim 1 has been rewritten to include features from amended dependent Claim 4. Claim 2 has been rewritten in independent form. Claims 8 and 9 have been amended to address informalities therein and to correspond with revised Claim 1, respectively. Claim 11 has been amended to include features from cancelled Claim 13. Claims 17 and 18 have been amended to further distinguish over the applied prior art. New Claims 21-26 have been added.

The Office Action indicates that acknowledgment is made of a claim for priority and that "some" of the certified copies of the priority documents have been received. This statement is not understood as we believe no certified copies are necessary. The application claims priority from U.S. Provisional Application No. 60/410 552 filed September 13, 2002 and was nationalized from PCT/US03/29161, filed September 12, 2003. The priority claim is set forth in the first paragraph of the specification. Please confirm that the priority claim is in order for this application.

The rejection of Claim 8 under 35 U.S.C. § 112, second paragraph as being indefinite has been considered. Claim 8 has been amended to delete the objected to phrase "such as". Therefore Claim 8 is now believed definite and withdrawal of the rejection is accordingly requested.

Pages 2 and 3 of the Office Action reject Claims 11, 12, 14, 17 and 18 on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claims 1, 2 and 5-8 of U.S. Patent No. 6 180 002 to Higgins.

Independent Claim 11 has been amended to include the features of cancelled Claim 13, which was not rejected based on double patenting.

Independent Claim 17 has been amended to now recite a pair of "metal" heat plates fixed to the respective sides of said central portion. There is no disclosure of metal heat plates in the claims or specification of Higgins. Instead, in Higgins a diaphragm transfers heat to the filter chamber. Claims 12, 14 and 18 depend from Claim 11 or Claim 17.

For the above reasons, Claims 11, 12, 14, 17 and 18 are believed distinguishable over Claims 1, 2 and 5-8 of Higgins, and withdrawal of the obviousness-type double patenting rejection is accordingly requested.

The rejection of Claims 11, 12, 14 and 17-20 under 35 U.S.C. § 102(b) as being anticipated by Higgins has been considered.

Claim 11 includes the features of cancelled Claim 13. Therefore, withdrawal of the rejection of Claims 11, 12 and 14 as anticipated by Higgins is respectfully requested.

Claim 17 now recites a "pair of metal heat plates fixed to the respective sides of said central portion." Higgins discloses the use of a diaphragm that expands and provides heat to the filter chamber. There is no disclosure in Higgins of metal plates, much less metal heat plates fixed to sides of a central portion of the frame.

For the above reasons, Claims 11 and 17, as well as Claims 12 and 18-20 dependent therefrom, are believed allowable over Higgins, and reconsideration and withdrawal of the instant rejection is accordingly requested.

The rejection of Claims 1, 6, 7 and 17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6 387 282 to Heckl has been considered.

Heckl discloses a press for carrying out drying of a filter cake including alternating heating plates 10 and membrane filter elements 1. The filter elements include a support wall 2 supporting a displaceable membrane 6 and a filter cloth 7 thereon. The membrane 6 is expandable to squeeze material in a filter chamber 4 located between the membrane and the metal heating plate 10.

Applicants' Claim 1 includes features from dependent Claim 4 and thus distinguishes over Heckl. For example, Heckl does not disclose or suggest a second plate having heat transfer members that "mounts thereon a pair of liquid permeable filter members" as is now recited in Claim 1.

Applicants' independent Claim 17 now recites that the plate defines therein "a port arrangement which communicates with the respective filtration chambers to permit drainage of liquid portion of the slurry through said plate". Further, the plate recited in Applicants' Claim 17 includes a pair of "metal" heat plates. Heckl does not disclose or suggest a metal heat plate, much less a pair of metal heat plates in combination with a port arrangement to permit drainage of liquid portion of a slurry through the plate.

For the above reasons Claim 1, and Claims 6 and 7 dependent therefrom, as well as Claim 17 are believed distinguishable over Heckl and withdrawal of the instant rejection is accordingly requested.

The rejection of Claims 2-5, 9 and 10 under 35 U.S.C. § 103 as being unpatentable over Heckl in view of U.S. Patent No. 3 390 772 to Juhasz has been considered.

Heckl is discussed above. Juhasz discloses alternating filter frames 19 and filter plates 20. The filter frames 19 include a bladder 24 and filter cloth 28a. Filter plates 20 include filter cloths 31a, 31b. The Office Action relies on Juhasz for teaching a heating plate having a drainage passage. Juhasz does not disclose a metal heat plate, but merely a flexible bladder 24 that is expandable to squeeze filter cakes and to transfer heat to the filter cakes.

Further, column 5, lines 41-48 of Heckl discloses that the heating plate 10 is free from drainage formations and may be provided with an anti-adhesive coating for contacting the filter cake.

There is no motivation, absent Applicants' specification, to provide a drainage passage as disclosed in Juhasz for the

metal heating plates 10 of Heckl. Moreover, Heckl teaches away from providing drainage for the heating plate.

Applicants' Claim 1 (from which rejected Claims 4, 5, 9 and 10 depend) recites "a pair of liquid permeable filter members which overlie the respective heat transfer members". As discussed above, Heckl provides direct contact between the heating plates 10 and the filter cake.

There is no motivation, absent Applicants' specification, to substitute the arrangement with a drainage path of Juhasz for the heating plate 10 of Heckl. Further, if such a substitution were made, which Applicants believe is improper, the Juhasz device teaches a bladder instead of a metal plate. Thus, Applicants' claimed filter press would not result.

For the above reasons Claim 1, and Claims 4, 5, 9 and 10 dependent therefrom, are believed allowable over Heckl in view of Juhasz.

Applicants' independent Claim 2 recites "said second plates defining therein a drainage passage which communicates with the respective filter chamber to permit drainage of the liquid portion of the slurry through said second plates".

As discussed above, Heckl does not disclose or suggest, but rather teaches away from providing drainage or a drainage passage for the heating plate 10. Therefore, Claim 2, and Claim 3 dependent therefrom, are believed allowable over Heckl in view of Juhasz.

The rejection of Claim 8 under 35 U.S.C. § 103 as being unpatentable over Heckl in view of Klinkau, U.S. Patent No. 4 832 840 has been considered. Klinkau is relied on merely for teaching plates in a filter press that are made of plastic. Claim 8 is believed allowable for the reasons set forth above with respect to Applicants' Claim 1 and withdrawal of the instant rejection is accordingly requested.

The rejection of Claim 13 under 35 U.S.C. § 103 as being unpatentable over Higgins has been considered. As discussed above, features from cancelled Claim 13 have been placed in

amended independent Claim 11. Thus, this rejection will be discussed with respect to Claim 11.

Applicants' Claim 11 recites first plates having "a pair of liquid impermeable membranes each disposed between said central portion and a respective said filter member" and each second plate including a pair of heat transmitting surfaces "recessed inwardly relative to a peripheral portion of the respective second plate". Higgins discloses the liquid impermeable membranes as providing a heat transfer function. Thus, Higgins differs from Applicants' claimed invention as the liquid impermeable membranes in Higgins are utilized to both squeeze a filter cake and to transfer heat thereto. This arrangement differs entirely from Applicants' claimed invention wherein the second plate that provides heat is separate from the first plate with the membranes that squeeze a filter cake.

Claims 15 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Juhasz in view of Heckl.

The embodiment illustrated in Figures 4-6 of Juhasz is for an arrangement wherein the liquid impermeable bladder 24 and the corresponding filter cloth 28A have surface increasing folds so that the bladder walls and the filter cloth can be expanded in order to squeeze filter cake. Column 3, line 1-4 of Juhasz discloses the option of providing an aluminum pigment to the rubber material when manufactured in order to increase heat transmission efficiency. An aluminum pigment is a coating or paint-like material that presumably is applied in a quantity that does not alter the properties of the rubber material forming the bladder. The arrangement of Juhasz differs entirely from the arrangement of Heckl wherein the metal heat plates 10 are solid and are fixed.

There is no motivation, absent Applicants' specification, to substitute the aluminum or metal plate of Heckl, which is a solid fixed element, for the expandable bladder of Juhasz due to their different functions and results. Specifically, providing the metal plate of Heckl for the bladder 24 of

Juhasz would destroy the expansion and squeeze function of the bladder. Further, it is unclear why one would maintain or provide folds for the solid metal plate of Heckl when substituted for the bladder with folds of Juhasz.

For the above reasons Claim 15, and Claim 16 dependent therefrom, are believed allowable over Juhasz in view of Heckl. Reconsideration and withdrawal of the instant rejection is accordingly requested.

Claims 21-26 have been added. Claims 21 and 22 depend from Claim 15 and are thus believed allowable for the same reasons as Claim 15 discussed above.

Claim 22 recites the flexible bellows comprising "flexible outer bellows joined to an outer edge of the respective metal heat plate and each said heat transfer element includes a flexible inner bellows joined to an inner edge of the respective metal heat plate". This arrangement is not present in Juhasz or Heckl. Therefore, Claim 22 is believed distinguishable over the applied prior art.

Applicants' independent Claim 23 recites a plate for a filter press and corresponds to the embodiment illustrated in Applicants' Figures 14-17. The plate includes "a rigid ring-like frame with a central recess extending therethrough, said frame including a shoulder disposed in the recess" and "a heat transfer assembly sized and shaped for mounting in the recess of the frame against the shoulder". Claim 23 further recites that the heat transfer assembly comprises "a pair of thin metal heat transfer plates sidewardly spaced apart and rigidly joined at peripheral edges to define a closed hollow box". This combination of structures is not believed to be present in the prior art.

Claims 24-26 depend from Claim 23 and thus are also believed allowable. Further, Claim 24 recites "a plurality of flow diverting elements joined to and extending transversely between the heat plates to define a flow path". Claim 25 further recites "a heat insulating strip for mounting between the frame and the heat transfer assembly". Finally, Claim 26

recites "liquid permeable filter members" to define drainage chambers and also recites "drainage passages in said frame". This combination of features is not believed present in the applied prior art.

In view of the above, Claims 23-26 are believed allowable.

In view of the above, the instant application is believed to be in condition for allowance, and action toward that end is respectfully requested.

Respectfully submitted,



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